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Will Japan increase aid and improve its allocation to help the poorer countries achieve the Millennium Development Goals?

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Summary

Developed countries have pledged to increase financial assistance to poor countries in order to help them achieve the Millennium Development Goals. A few donors such as the US and the UK have been increasing their financial assistance in the recent past, but this trend has yet to be generalised across the donor community. Japan is among the largest aid donors, but has as yet not followed the US and the UK in increasing her aid budget. This paper sets the task of examining the prospects of Japanese aid to increase significantly in the coming years, and its allocation to be re-directed towards the most aid needy countries. To this end, we turn to the past to investigate how Japanese aid policies have changed over time and also identify empirically the major determinants of aid allocation. Our study shows that whilst Japan's aid has increased in the past, in response to the broadening of its aid policy to include humanitarian and development objectives, the empirical analysis on aid allocation shows that geo-economic interests have played a crucial role. Given the historical trend one can conclude that the same determinant factors may keep on playing vital roles in aid allocation decision-making at least for some years to come, even though there has been an increased call for more assistance to poor regions.

Keywords: ODA and poverty, Millennium Development Goals, Japanese ODA policy, determinants of Japanese aid allocation, cross-sectional analysis, donor interest, recipient need

JEL classification: F35, C21, C23

Contents

Tables

1. Introduction

Developed countries have pledged to increase financial assistance to poor countries in order to help them achieve the Millennium Development Goals. Assistance has been reaffirmed in various forums such as the Doha ministerial declaration of the WTO meeting in 2001 and the World Summit on Sustainable Development in Johannesburg in 2002 (UNDP 2003: 145).[1] Economic self-interest and politico-strategic and humanitarian concerns motivate donors in their development assistance policies. More specifically, these include promotion of trade, direct foreign investments, image-building of the donor in the international arena, national security, as well as democracy and civil liberties in recipient countries. In addition, relationships derived from past colonial ties often influence aid flows positively (Alesina and Dollar 1998: 1; Todaro and Smith 2003: 653). An abundant amount of literature has pointed out that either economic self-interest or political self-interest has played a pivotal role in the early phases of foreign aid programmes of many donors. For instance, the United States used her aid programmes as strategic tools to halt the former Soviet Union in its tracks throughout the developing world in the 1940s and 1950s (Orr 1990: 104). Japan used aid as an important instrument in the re-establishment of her trade and investment in the 1950s and 1960s (Hasegawa 1975: 3; Ozawa 1989: 95; Koppel and Orr 1993: 353; Rix 1993: 18; Tisch and Wallace 1994: 6; and MOFA 2001).[2] However, as mentioned earlier, in an attempt to respond to international criticism and also due to many global-level initiatives including the Millennium Development Goals, rich countries (including Japan) have pledged to increase assistance to poor regions of the world and also have changed their aid policies to certain extent.

Currently, almost all donors mention humanitarian assistance in explaining their aid motives. Japan is formulating a new ODA charter and has indicated in its draft that she seeks a greater role in promoting economic development in developing countries. It is also said that the new draft is significantly different from the old charter enacted in 1992. Whatever the policies mentioned in documents, however, donors' motives are sometimes doubted. Japanese aid allocation is not free of criticism and it is argued that Japan's aid policy is simply a continuation of her domestic post-war economic recovery strategy; that is, concern for her domestic prosperity and security.

Whatever the reasons given above, Japan remains as one of the largest donor countries in the world (see Table 1.1), making ODA contributions to more than 150 developing countries. She provided a peak of $15.3 billion in foreign assistance in 1999 (0.35 per cent of GNP), perhaps the highest amount among all the industrial countries (Yamashita and Khachi 2003: 1). This is above the average of 0.29 per cent for all industrial countries, though it is well below the internationally agreed United Nations target of 0.7 per cent. Due to the prolonged economic slump however, the ODA budget was slashed by 9.4 per cent in 2003 following an 11.9 per cent drop in 2002. But it is important to look at how Japanese aid policies have

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1 The Monterrey Consensus too acknowledged the need for increased assistance by developed countries and urges them to make concerted effort to maintain or reach the aid target of 0.7 per cent of GNP set in 1970 by the United Nations.

2 The Final Report of the Second Consultative Committee on ODA Reform of Japanese Government is available at *www.mofa.go.jp/policy/oda/reform/report0203.html* (accessed 20 December 2002).

changed over time and what factors really determine the allocation of Japanese funds given its huge aid package. To the authors' knowledge, there are few studies available on the determinants of Japanese aid allocation using a long sample period with cross country data. We hope this empirical study will provide a comprehensive understanding of the determinants of aid allocation behaviour of Japan. The study will also shed light on some possible future scenarios.

Table 1.1 Japanese net ODA compared with other donor countries

	1960–69	1970–79	1980–89	1990–99	2000	2001	2002
Japan	0.226 (0.22)	1.229 (0.22)	5.250 (0.30)	11.176 (0.26)	13.508 (0.28)	9.847 (0.23)	9.283 (0.23)
Australia	0.116 (0.43)	0.399 (0.44)	0.798 (0.40)	1.034 (0.30)	0.987 (0.26)	0.873 (0.24)	0.989 (0.25)
Belgium	0.088 (0.56)	0.323 (0.52)	0.557 (0.51)	0.848 (0.36)	0.820 (0.35)	0.867 (0.37)	1.071 (0.42)
Canada	0.120 (0.14)	0.730 (0.46)	1.639 (0.45)	2.156 (0.38)	1.744 (0.25)	1.533 (0.23)	2.006 (0.29)
France	0.845 (0.91)	1.343 (0.43)	3.853 (0.55)	7.278 (0.53)	4.105 (0.31)	4.198 0.32	5.486 0.39
Germany	0.436 -	1.541 (0.28)	3.670 (0.38)	6.664 (0.32)	5.030 (0.27)	4.989 (0.27)	5.324 (0.27)
Italy	0.090 (0.14)	0.210 (0.11)	1.705 (0.28)	2.560 (0.23)	1.376 (0.13)	1.627 (0.15)	2.332 (0.20)
Netherlands	0.079 (0.37)	0.627 (0.65)	1.637 (0.92)	2.844 (0.79)	3.135 (0.84)	3.172 (0.83)	3.338 (0.80)
United Kingdom	0.453 -	0.974 (0.38)	1.925 (0.34)	3.232 (0.28)	4.501 (0.31)	4.579 (0.32)	4.924 (0.31)
United States	3.464 (0.50)	4.010 (0.25)	8.381 (0.21)	9.597 (0.14)	9.955 (0.10)	11.429 (0.11)	13.290 (0.13)

Source: OECD Statistics Online[3] and World Development Indicators. Note: Net ODA figures are in billion US dollar. Net ODA figure as percentage of GNP is given in parentheses.

The objectives of this paper are: (1) to explain how Japanese aid allocation policies changed over time; (2) to identify major determinants of Japanese bilateral aid allocation; and (3) to evaluate the stated objectives mentioned in various aid policy documents versus their actual achievements, and prospects for increased aid towards most aid-needy countries. The paper is organised as follows. Following this introduction, Section 2 raises the issue of the future of Japanese ODA allocation in light of past trends and motivations. Section 3 furnishes a review of the existing literature on aid allocation, whilst Section 4 presents the specifications of the econometric model estimation. The interpretations of the results are made available in Section 5. Section 6 concludes.

[3] www.oecd.org/dataoecd/

2. An evaluation of changes in Japanese aid policies over time

This section briefly reviews the evolution of Japan's aid policy, its relative size and regional distribution in light of past trends and motivation.

2.1 Early stage of Japanese aid: 1950s and 1960s

Japan commenced her development assistance programmes through technical assistance in 1954, just after joining the Colombo Plan.[4] Japan joined the Colombo Plan on 6 October 1954 with a contribution of $50,000, while still receiving economic assistance from the World Bank and the US.[5] It was as a member of this organisation that Japan initiated its foreign assistance programme (Ratnayaka 2003). In 1958, the first ODA loan of Yen18 billion was extended to India, and grant aid and food aid started in 1968. At its inception, Japanese aid started from her post-war economic recovery strategy by war reparation negotiations or economic cooperation with the Asian nations Japan had occupied during World War II. In 1954, the Japan-Burma Peace Treaty and Agreement on Reparations and Economic Cooperation was signed. In 1955, a reparations department was established by the Ministry of Foreign Affairs in its Asian Affairs Bureau. Reparations agreements were signed between Japan and Philippines in 1956 and between Japan and Indonesia in 1958. An agreement was also signed with Thailand, and later special aid packages were extended to Singapore, Vietnam and Malaysia. Japanese aid in the 1950s was heavily linked with her economic benefits: expansion of the export market, assurance of the inflow of raw materials for expanding domestic companies, and supporting the participation of Japanese companies in many Asian countries. Though the sum of reparation expenditure was only about $1 billion over 20 years, it contributed significantly to the pursuit of her economic interest (Brooks and Orr 1985: 324). At the same time the arrangements helped Southeast Asian countries to increase their capacity and to accelerate their economic development. So, the aid policy of Japan in the 1950s and 1960s can be seen simply from her economic interest in the post-war period and not from Japan's overall foreign policy or the inherent aid philosophy that came to prominence in the 1970s. Table 2.1 shows the historical evolution of Japanese aid plans and their main targets.

2.2 Japanese aid in the 1970s and 1980s

By 1978, Japan appeared as a major bilateral donor in Asia and by the year 1989, Japan emerged as the number one donor in the world with a net disbursement of $8.965 billion (Association for Promotion of International Cooperation 1991: 61). Since then, with the natural ups or downs of her position among development assistance committee (DAC) countries, Japan has maintained her position as a leading donor in the world. Of the policy changes during the period under review in this study, the first policy change came in the early 1970s, when Japan had to revise her foreign policy because of various international

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4 The Colombo Plan was launched in 1951 and takes its name from Sri Lanka's capital where the plan was formulated and established (Arnold 1996).

5 Japan received a total of $862.9 million from the World Bank to finance its 31 projects in 13 years (from 1952 to 1966) and it became the 11th country to graduate in November 1966.

crises. The first was the oil embargo by Organization for Petroleum Exporting Countries (OPEC) in 1973 which severely affected Japan. The oil crisis stimulated Japan to redesign her foreign policy to secure a steady supply of energy and other resources during this period. Aid was utilised as an essential instrument to protect diplomatic interests with resource-rich countries outside of Asia. In addition, Japan had to balance between the resource-rich Middle East countries, and Israel and her Western alliance. The oil crisis also resulted in Japan's globalisation of her aid allocation and expansion into new regions such as Africa, Latin America and the Middle East. The initial share for the new regions accounted for about one third of Japan's total aid.

Table 2.1 ODA plans of Japan and their main features

Plan	Period	Main features/targets
First Plan	1978-1980	To double the annual amount of ODA from $1.4 billion per year to $2.8 billion per year at the end of the period.
Second Plan	1981-1985	To double the 5 year total amount of ODA from $10.7 billion to $21.4 billion at the end of the period.
Third Plan	1986-1992	To double the annual amount of ODA from $3.8 billion per year to $7.6 billion per year at the end of the period.
Fourth Plan	1988-1992	To double the 5 year total amount of ODA from $25 billion per year to $50 billion per year at the end of the period.
Fifth Plan	1993-1997	To increase the 5 year total amount of ODA from $70 billion to $75 billion at the end of the period and also increase grant components and untied projects.
Sixth Plan	1999-2004	ODA has been more streamlined and objective based. Has encouraged more NGO participation.

Source: Adapted from Yamashita and Khachi (2003).

Apart from the oil crisis other factors that affected general foreign policy as well as aid policy in the 1970s were the relationship with the US, pressure from the international community (especially from the US and other DAC countries) to increase the aid budget, and her image question in the global environment. Japan became conscious that she would have to give more weight to the US-Japan relationship because of political and security reasons as well as for the expansion of her international economic activities. Insecurity on the Korean peninsula, instability in China, and the intentions of the Soviet Union in Asia became increasing security concerns for the country (Koppel and Orr 1993: 342). Moreover Japan's trade with the US continued to increase. What the US sought from Japan was her participation in a share of the global security objectives of the western alliance. Given this situation, Japan began to define her aid programme with broadly defined political and security objectives paving the way for aid to enter into the foreign policy framework of Japan.

Having the experience of difficult aid management in the 1970s, aid later developed into a multi-dimensional and multi-purpose diplomatic instrument in the 1980s. Despite the lion's share of aid disbursed in Asia,[6] Japanese aid eventually began to acquire a global focus, enhancing Japan's relations with rest of the world. The Ministry of International Trade and Industry (MITI) wanted to use ODA to restructure Japan's FDI and trade relations with Southeast Asia. The Ministry of Foreign Affairs (MOFA), on the other hand, was more likely to use aid as a diplomatic lever. As a result both commercial and strategic perspectives dominated the aid flow of Japan in the 1980s.

ODA policy-making was a bit challenging in the latter half of the 1980s. Aid became the subject of evaluation in both domestic and international platforms. The Western alliance accused Japan of not keeping up to her promises of ODA, and of failing to meet DAC standards in terms of concessionality. Domestic critics from the media, universities, grass-roots organisations and opposition parties, focused on the waste and corruption of Japanese ODA. More challenges for the ODA policy came after the Plaza Accord in September 1985. The outcome of the Plaza accord was the recognition of Japan as an economic superpower. Firstly, the Plaza accord increased the expectations substantially about Japan's global role as the largest creditor nation. Secondly, it forced Japan to respond quickly with her own economic security and competitiveness strategies in the changing economic polarisation. The Plaza accord can be considered as a milestone for Japan because it is at this point that the country regained her confidence as a great economic power and began to define her role heading into the twenty-first century.

After the Plaza Accord in 1985, coping with increased international economic competitiveness became a key issue for Japan. The appreciation of the yen made certain manufacturing sectors uncompetitive and allowed the country to move her manufacturing overseas. Japan explored to find profitable investment opportunities abroad. Asian countries, especially those in Southeast Asia, emerged as natural candidates due to superior locational advantage for Japan's FDI. Since 1985, Japan's FDI in Asian manufacturing grew quickly from about $500 million a year to over $3 billion a year (Arase 1995: 142). Japanese ODA began to be used as a way to build infrastructure, to improve domestic skills, and to create institutions in her Asian neighbours, ensuring less risky flows of Japanese capital. Undoubtedly, Japan's effort was successful and both of the parties benefited. Japan could face her economic challenges and Southeast Asian countries could experience a higher growth path. This success story led Japan to formulate her own style of development cooperation – support industrial development and economic integration of developing countries (Ohno 2003: 30–41).

In the second half of the 1980s the power of the socialist block was on track to weaken with significant implications for Japan's ODA policy: one such implication related to Japan's contribution to Western security. During the Cold War era there was pressure from the Western alliance, especially from the US, to allocate more aid to the countries facing a Soviet threat. As security threats disappeared, the

[6] Japan's aid concentration to Asia was almost 100 per cent in the 1960s and very first years of the 1970s. In 1971, 98.4 per cent of Japanese aid went to Asia. However, the percentage declined gradually in the later years of the decade and by the late 1970s the percentage stabilised between 65 to 70 per cent. In the early 1980s the Foreign Ministry unofficially instituted a policy of maintaining 70-10-10-10 ratio, which means 70 per cent to Asia and 10 per cent each for Latin America, the Middle East and Africa, respectively.

transition economies in Asia became a more feasible region for Japan's foreign assistance and private capital flow because of continued market-oriented reform in those economies.

2.3 Japanese aid in the 1990s

During the 1990s, transitional economies in Asia such as Laos, Vietnam and Mongolia emerged as key recipient nations as Japan's overall economic and political interest, and ODA flow to these countries increased substantially in the period. In addition, after the break-up of the former Soviet Union in 1991, previously socialist countries in Central Asia and Eastern Europe became included on the ODA recipient list for the reconstruction of the countries in order to hold Japan's image and interest in the changing environment. Given the changing global socio-economic, political and environmental situation together with the collapse of the Cold War, Japan enacted a new ODA charter in 1992. As a result, Japan's ODA has become more streamlined and objective-based in the last decade than ever before.

2.4 Japanese aid – present and future

At the time of writing the government of Japan is revising its decade-old ODA charter in response to the global changes induced by the 11 September 2001 attacks, the Millennium Development Goals adopted by the United Nations, and increasing calls for Japan to have more transparent and greater diversity in ODA programmes. It has been asserted in the discussion above that Japanese bilateral aid allocation has two goals. The first goal has been survival and prosperity, reflecting the economic aspect of its aid policy. This is what some writers have described as "economic nationalism" (Hasegawa 1975: 3; Ozawa, 1989: 95; and Tisch and Wallace 1994, 6).[7]

The second goal has been to acquire and maintain the social and political trust of the world community. Japan has presented the rationale for its foreign assistance programme in terms of five main factors: perceived international obligation (1) as a rich nation, (2) as the world's greatest creditor nation, (3) as a country economically dependent on less developed countries, (4) as a peace-loving nation and (5) as the only advanced non-western nation (Rix 1993: 14). As one of the largest donor countries in the world, Japan has made ODA contributions to more than 150 developing countries. Table 1.1 reveals the comparative picture of Japanese aid.

2.5 Will Japan in the light of the MDGs allocate more aid to the most aid needy regions?

The donors are obliged as they have committed to increasing aid to help achieve the poverty reduction goal in the MDGs. The Sub-Saharan Africa region, being the neediest in the world deserves more aid than

[7] Hasegawa divided objectives of the Japanese aid programme as falling into five groups: (1) Japanese nationalism, (2) non-ideological economic expansionism, (3) ideological expansionism, (4) self-preservation, and (5) world communalism.

the other regions.[8] Given this background an attempt is made in this section to revive the regional distribution of Japanese aid. It was the second diplomacy report – produced as far back as 1958 – which emphasised the importance of economic prosperity of Asia as a necessary condition for the political and economic stability of Japan itself. Hence the favoured position held by Asia in the distribution of Japanese assistance. This distribution scheme remains unchanged to-date given the highly diverse conditions in Asian developing countries in terms of income levels, growth rates and social and environmental conditions (Cooray 2003). Since the collapse of the former Soviet Union, the transition economies in Central Asia were also added to the number of Asian countries receiving Japanese assistance.

Table 2.2 presents details of the geographical distribution of Japanese ODA. From the table we can note that Japanese aid to Asia is unequally distributed by country and region. Southeast Asia, whose per capita incomes are comparatively higher, receives 32.7 per cent of the total as compared to the 11.7 per cent received by the so-called Southwest Asia.[9] In the geographical distribution of Japanese ODA, Africa ranks second as a recipient world region with Latin America and the Caribbean occupying the third position. Africa received 10.1 per cent of Japanese ODA in 2000 and Latin America 8.3 per cent. According to Table 2.2 absolute aid figures for Africa – the neediest region in the world in terms of poverty – had been gradually increasing until 1999. Decrease in 2000 and the later period can be justified by general slowdown of Japanese aid. By looking at the historical record, one can argue that Japan has helped the neediest region, but not as much as the better-off Asian region. How is Japan's aid allocation according to recipient needs, when compared with other donors?

It is worth citing in this regard an interesting study by Baulch (2004a and 2004b), who constructed a Suits index for major bilateral and multilateral donors, and assessed donors' contribution to achieving MDGs.[10] Negative values for Suits index of Table 2.3 relating to the United Nations, World Bank, the Netherlands and UK, reveal that they have distributed a large share of their concessionary aid to the poorest and most deprived countries/regions. Japan occupies an intermediate position in terms of recent aid distribution which implies that it contributes to low income countries but also makes considerable allocation to relatively well-off countries, as indicated above. In contrast, high positive values of Suits index for the US and European Commission suggest that they are less committed to needy regions.

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8 It is true that there are more poor and deprived people in South Asia. However, we believe that the countries in the region, such as India where most of the poor in numerical terms are concentrated, has relatively more financial and other human resources to address the problem.

9 According to Japanese ODA reports Southwest countries include what are normally called South Asian countries such as Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka.

10 Please see Baulch 2004a and 2004b for explanation of methodology and estimation procedure of Suits index.

Table 2.2 Regional distribution of Japanese bilateral aid

	1985-89	1990-94	1995-1999	2000	2001
Asia	3183.2	4913.4	4993.716	5283.82	4220.48
	(64.04)	(58.3)	(55.95)	(54.81)	(56.6)
Northeast Asia	616.6	1133.2	1099.658	700.46	694.69
	(12.41)	(13.45)	(12.32)	(7.2)	(9.3)
Southeast Asia	1684	2533.2	2444.924	3155.47	2117.52
	(33.88)	(30.06)	(27.39)	(32.73)	(28.4)
Southwest Asia	875.2	1229.2	1269.942	1130.07	1156.87
	(17.61)	(14.59)	(14.23)	(11.72)	(15.5)
Others	7.4	17.8	179.192	297.82	251.41
	(0.15)	(0.21)	(2.01)	(3.09)	(3.3)
Middle East	403.6	829.8	546.23	727.46	287.19
	(8.12)	(9.85)	(6.12)	(7.55)	(3.9)
Africa	622	934.2	1029.526	968.98	851.33
	(12.51)	(11.09)	(11.53)	(10.05)	(11.4)
Central and South America	384.4	749.6	842.042	799.56	738.21
	(7.73)	(8.89)	(9.43)	(8.29)	(9.9)
Oceania	67.6	131.2	160.446	151.06	101.5
	(1.36)	(1.56)	(1.8)	(1.57)	(1.4)
Europe	4	106.8	156.424	117.57	116.1
	(0.08)	(1.27)	(1.75)	(1.22)	(1.6)
Unallocated/unspecified	305.6	763.4	1197.726	1591.64	1137.22
	(6.15)	(9.06)	(13.42)	(16.51)	(15.3)
Total	4970.4	8427.6	8925.91	9640.09	7452.04
	(100)	(100)	(100)	(100)	(100)

Source: Compiled by authors from various Japanese ODA Annual Reports.
Note: Percentage is given in parenthesis. Net disbursement is in million dollars.

Table 2.3 Suits indices for the major bilateral and multilateral donors

USA	0.370	0.416	0.422	0.457
Japan	0.218	0.299	0.320	0.370
European Commission	0.308	0.345	0.361	0.390
World Bank(IDA)	-0.386	-0.309	-0.247	-0.176
France	0.191	0.257	0.257	0.290
Germany	0.155	0.212	0.234	0.275
United Nations	-0.013	0.041	0.082	0.130
UK	-0.324	-0.256	-0.201	-0.138
Netherlands	-0.165	-0.095	-0.060	-0.004
DAC, Total	0.125	0.187	0.208	0.254

Source: Baulch (2004b: 8).

3. Review of literature on aid allocation

Having discussed the policies of Japanese aid and its regional distribution, we present in this section a review of literature on determinants of aid allocation of other donor countries. Research on bilateral aid allocation behaviour started in the mid-1950s. Since then several studies have been done on aid allocation decisions of various bilateral donors, mostly on the United States and other Western donors. However, the use of econometric modelling to describe the decision of aid allocation began in the late 1970s. The most pioneering and widely cited empirical works include those of McKinlay and Little (1977, 1979), and McKinlay (1978). They estimated two different equations with different variables representing both the recipient-need and donor-interest (RN-DI) aspects in aid allocation pattern of major donors. However, in recent years criticisms have emerged regarding the specification of the RN-DI model (McGillivray 2003). McKinlay and Little (1977, 1979) analysed US aid allocation behaviour over the period 1960 to 1970. The results revealed that humanitarian criteria did not cause and explain US aid allocation, whereas security and political reasons were found to be highly significant in the US aid allocation choice.

Maizels and Nissanke (1984), with cross-country data, attempted to identify the underlying principles of aid allocation using recipient need and donor interest for the period 1969/70 to 1978/80. The study examined bilateral and multilateral aid from principal donors such as the US, France, Germany, Japan and the UK. Results found that bilateral aid flows are heavily determined by donor interest whereas multilateral aid allocations are made available according to recipient needs.

McGillivray and Oczkowski (1992) found that the UK favours its former colonies (currently known as Commonwealth Countries) in their bilateral aid allocation. The result was also consistent with humanitarian interests.

Shishido and Minato (1994: 110) studied the ODA behaviour of the G7 countries at both aggregate and bilateral levels. According to the study 'many differences were observed in their behaviour in terms of international security, conflicts between policy targets, neutrality, humanitarianism, trade linkage, etc., at both the aggregate and bilateral allocation levels in the ODA flow'. The countries, according to the study, that show a growing dynamism in their ODA behaviour are Japan, Germany, France, and Italy.

Gounder (1994) tested the recipient need and donor interest hypotheses by taking Australia's bilateral aid programmes into consideration. In contrast to the findings of other studies, both donor interest and recipient need models are supported in the case of Australia's bilateral aid allocation. Again, Gounder and Sen (1999) studied the behaviour of Australian aid to Indonesia using the data from 1970/71 to 1995/96. Two regression models, namely RN and DI models, were employed. The results revealed that both RN and DI models explain Australia's aid to Indonesia, in general, but the RN model dominates the DI model.

Arvin and Drewes (2001: 176) focused on the issues of population and middle-income biases in German aid allocation. The sample study of 85 recipient countries for the period 1973–1995 found evidence of population bias but no middle-income bias in German aid allocation. Berthelemy and Tichit (2002: 26) studied the aid allocation behaviour of the 22 donors of the Development Assistance

Committee of the OECD for 20 years (1980–99) and 137 recipient countries. The authors utilised a Tobit model in their study and found that aid is generally increasing for most donors in the 1990s and good economic and political environments have been rewarded by donors since 1990.

McGillivray (2003: 5) pointed out that estimations of two separate equations provides biased results as both recipient needs and donor interests influence aid allocation in a different way. As all of the donor-interest and recipient-need variables have an effect on aid allocation, it is necessary to introduce them altogether in one equation. He also studied the reliability of the RN-DI studies by using rigorous econometric methods and found that, as opposed to the previous findings in RN-DN studies, development criteria, in fact, affected the US aid allocation assessment during the cold war period. Table 3.1 shows the summary of major studies on aid allocation together with their main features.

Table 3.1 Summary of major studies on bilateral ODA allocation

Author (date) and sample period (SP)	**Donor**	**Explanatory variables**	**Main Findings**
McKinlay and Little (1977 and 1979) Sample period: 1960–70	US	Recipient need: GDP per capita, per capita calorie consumption, number of doctors per 100,000 population, size of international liquidity, growth rate of real per capita GDP, and gross domestic fixed capital formation. Donor interest: development interests, overseas economic interests, security interests, power political interests, and political stability and democracy interest variables.	Foreign policy view clearly dominated.
Maizels and Nissanke (1984) Sample period: 1969–70 and 1978–80	US, French, German, Japanese, British, multilateral aid flow	Recipient need: population, GNP per capita, PQLI, GNP growth rate, balance of payments Donor interest: political and security interests, investment interests, and trade interests variables.	Donor interest model provides good explanation for bilateral aid, whereas recipient need model fits multilateral flow.
Mark McGillivray and Edward Oczkowski (1992) Sample period: 1980–87	Britain	GNP per capita, population, dummy variable for least developed countries, newly industrialised country dummy.	British bilateral aid eligibility and amount decisions are related to her humanitarian, commercial, and political interests in developing countries.
Gounder (1994) Sample period: 1985–92	Australia	Recipient need: per capita living levels, growth rate of per capita, deficit of the balance of payments, population	Both recipient need and donor interest models provide good explanation of Australia's bilateral aid.

Shishido and Minato (1994) Sample period: 1970–89	G7 countries: Japan, US, Canada, UK, France, Germany, and Italy	Aggregate ODA: nominal GDP, current account balance, exchange rate, defence expenditure, social security expenditure. Bilateral ODA: population, per capita GNP, share of primary imports, manufacturing exports.	Many differences were observed in the behaviour of donors. Japan, Germany, France, and Italy show growing dynamism in their ODA behaviour.
Gounder and Sen (1999)	Australia	Recipient need: per capita GNP, deficit on the balance of payments, population, time lag of per capita aid Donor interest: per capita military aid, Australia's investment to Indonesia, Australia's export to Indonesia.	Recipient need model dominates the donor interest model.
Arvin and Drewes (2001) Sample period: 1973–95	German	GNP per capita, population, import of the recipient from Germany, privileged group, and country dummy	Existence of a population bias, but no evidence of a middle income bias.
Berthelemy and Tichit (2002) Sample period: 1980–99	22 donors of the DAC of OECD	Real GDP per capita, population, growth rate, FDI, primary enrolment rate, infant mortality, total aid commitment of other donors, civil liberty and political freedom, bilateral trade flow, dummy variables: former colony, when the recipient is Egypt and donor is USA.	Donors reward good economic policy outcomes since 1990. The end of the Cold War has reduced the bias towards former colonial links.
Neumayer (2003) Sample period: 1983–97	Four regional development banks and three United Nations agencies.	Population, GDP per capita, political freedom, integrity rights, military expenditures, arms imports, PQLI, corruption, colony dummy.	Most regional development banks focus exclusively on economic need of the recipient. UN agencies take account the human development aspects.
McGillivary (2003)	US	GNP per capita, population, infant morality rate, income growth, US export to recipient country, US arms transfer to the recipient, and special relation dummy.	Development criteria have had a larger influence during the Cold War period than previously thought.

Source: Cooray and Shahiduzzaman (2004).

4. The model specification, data and estimation

As evident, in Section 2 on Japanese aid policy and Section 3 on the literature survey of aid allocation, donors have underlying factors which affect their aid allocation decisions. Existing literature classifies them into donor-interest and recipient-need. Recently, policy performance variables have been included in aid allocation studies as a third group of variables. Donor-interest explains the economic, political, and strategic interests of the donor while recipient-need explains the economic, social, and human

development needs of the recipient countries. As shown in the literature review, there is little doubt that donor interest variables play dominant roles in aid allocation although donor's various policy documents explain recipient need criteria as a main factor in allocating aid. For example, the basic doctrines of Japan's ODA Charter of 1992 are those of humanitarian considerations and to support recipients in self-help efforts. *If aid is allocated on the basis of recipient needs, then the poorest countries should receive more aid than their richest counterparts.* A number of studies find that donors give more aid to poor countries. Some studies include human development aspects to explain recipient need. Following Burnside and Dollar's (2000; 1998) conclusions that aid works only in a good policy environment, bilateral and multilateral donors are now becoming concerned with the policy environment of recipient countries. Recent aid allocation studies accordingly include some policy performance variables.

Following McGillivray (2003) criticism of the 2 separate equation model, in the current study we put all Recipient Need (RN), Donor Interest (DI) and policy performance variables together so this approach can escape the criticism of the omitted variable problem. The model is estimated using panel data for recipient countries. All explanatory variables are in one year lag. This is due to the fact that aid decisions are made just prior to or at the commencement of a year. At that time, the data available to decision makers is mostly for the previous year. We choose aid commitment rather than the disbursement as the dependent variable. Here, commitment should be viewed as the decision to supply aid. There is controversy in existing literatures about the use of endogenous variable in per capita or absolute terms (McGillivary and Oczkowski 1992: 1314). Calculating per capita aid allocations, from a pool of predetermined funds, may be a difficult and cumbersome procedure as donors and aid agencies rarely report aid in per capita terms. The fact is that aid is allocated in absolute terms from a large amount of pooled funds. Absolute aid allocation is the final decision which may be already adjusted for the population of the recipient country, if donors deem it important. The variables ODA, population, per capita GDP, distance, export from Japan and import to Japan are employed in natural log as they vary across a large range among recipients. Population and GDP per capita are also employed in the quadratic form to allow for non-linearity in their relationship with the aid variable. The general form of the regression equation is as follows:

$$\ln(ODA_{it}) = \beta_0 + \beta_1 \ln(GDPPC_{it-1}) + \beta_2 (\ln(GDPPC_{it-1}))^2 + \beta_3 \ln(POP_{it-1}) + \beta_4 (\ln(POP_{it-1}))^2 + \beta_5 \ln(EXP\_J_{it-1}) + \beta_6 \ln(IMP\_J_{t-1}) + \beta_7 Freedom + \beta_8 \ln(DIST_{ji}) + \beta_9 IMR_{it-1} + \beta_{10} OPEN_{it-1} + u_{it}$$

Where, ODA is the bilateral ODA commitment, GDP is real GDP per capita of the recipient country, POP is Population of the recipient country, EXP_J is export from Japan to recipient country, and IMP_J is the import to Japan from recipient country. Freedom is an index of democracy indicating civil liberty and political right of the recipient country. DIST is the distance from Tokyo to the capital city of the recipient country. IMR is the infant mortality rate while OPEN is the openness index of the recipient country.

4.1 Data and sources

The sample included in this study covers about 96 Japanese aid recipient countries/territories for the period of 1981–2001. Every attempt has been made to contain as many recipient countries as possible. Sample size is affected by the availability of data of the explanatory variables. Data for all variables are taken on a yearly basis. ODA is the bilateral ODA commitments by purpose of the Japanese Government taken from the Geographical Distribution of Financial Flow of Source OECD online database. The nominal ODA flow has been converted to real using 1995 constant dollars by using the deflator for resource flow from DAC members. Real GDP per capita at constant 1995 dollars is taken from the World Development Indicators (WDI) online database. POP is the Population of the recipient country, also collected from WDI. EXP_J and IMP_J are the constant 1995 exports and imports from and to Japan respectively collected from Source OECD. Nominal export and import data are collected from Direction of Trade (DOT) online database and again it is converted into real figures by using the deflator. The distance (DIST) from Tokyo to the capital city of the recipient country is collected from Meridian world database. Index for freedom of democracy is an un-weighted sum of political right and civil liberty indexes taken from Freedom House's Freedom of the World survey. The survey evaluates political rights and civil liberties separately on a seven-category scale, 1 representing the most free and 7 the least free. Infant mortality rate is included in this study as an indicator of the performance of social policies in the recipient country. The data is collected from the WDI online of the World Bank. However because of the large number of missing observations in the data series it has been necessary to estimate missing values from the data set. When we do not have any *a priori* information, the most common approach is to replace the missing observation with the sample mean of observations. OPEN is the ratio of the sum of the export and import to GDP of the recipient country. Export, import and GDP data are collected from the WDI online of the World Bank.

5. Estimated results

The estimation results are given in the Table 5.1. Because the absolute amount of aid varies in large extent among the recipient countries, it is suspected that heteroscedasticity is present in the data. For this reason, a Generalized Least Squares (GLS) in Cross Section Weights is employed. For each specification an "F" test is performed to compare the common intercept and fixed effects estimation. The test statistics reject the null hypothesis of a common intercept. In the second stage, a random effects model is run and Hausman test statistics are performed for each of the specifications to compare fixed effects and random effects. The Hausman test statistics reject the random effects in favour of the fixed effects models. However, as the distance variable cannot be estimated in the fixed effects model because of its time-invariant characteristics, the GLS estimation in common intercept is also reported in Table 5.1 along with the fixed effects specifications. The explanatory powers of equations as measured by R^2 are quite high given the cross sectional nature of the study. The variables such as real GDP per capita, population size, exports from Japan to recipient country, imports to Japan from the recipient countries, distance, and the

Table 5.1 Estimated equations

	Common Intercept		**Fixed Effects**	
	Specification 1	**Specification 2**	**Specification 1**	**Specification 2**
GDPPC	3.228*** (10.844)	2.767*** (7.287)	3.205*** (3.605)	2.788** (2.526)
$GDPPC^2$	-0.247*** (-12.122)	-0.219*** (-8.081)	-0.173** (-2.543)	-0.156* (-1.856)
POP	0.617*** (15.675)	0.583*** (10.548)	2.606*** (8.574)	3.192*** (6.776)
POP^2	-0.026*** (-4.325)	-0.029*** (-4.117)	-0.267*** (-4.591)	-0.357*** (-4.153)
EXP_J	0.064* (1.681)	0.123*** (2.692)	0.186*** (3.602)	0.187*** (2.896)
IMP_J	0.078*** (3.757)	0.098*** (4.1)	0.059* (1.877)	0.0007 (0.018)
DIST	-1.133*** (-12.391)	-0.988*** (-8.016)		
Freedom	-0.114*** (-10.766)	-0.099*** (-7.866)	-0.057*** (-4.126)	-0.026* (-1.681)
IMR	0.0001 (1.09)	-0.0007 (0.457)	-0.002 (-0.482)	-0.004 (1.039)
OPEN		0.134 (1.007)		-0.009 (-0.045)
Constant	2.108 (1.583)	2.25 (1.217)		
No. of obs.	1644	1402	1644	1402
Adjusted R^2	0.782	0.781	0.886	0.883

Dependent variable is total bilateral aid commitment. GLS regression is with yearly data. Figures are rounded.
*** Significant at 1% level.
** Significant at 5% level.
* Significant at 10% level.
Numbers in the parentheses are t statistics.

infant mortality rate variable are entered in all equations because of better data availability. The variable OPEN is included to check the number of observations and robustness of the results. As for the DIST variables the sign of the coefficients are negative as expected and statistically significant at 1 per cent in the common intercept estimations. This illustrates Japan's bias toward Asian countries. It should be noted that Asia concentration is the outcome of overall foreign policy objectives.

In Table 5.1, the common intercept estimations are qualitatively similar to the fixed effects estimations. The absolute aid increases as the GDP per capita increases but decreases after a threshold level of GDP per capita is reached. Japan's ODA thus shows an income bias (or middle income concerns). Japan may extend aid before reaching a threshold level. The relationship between GDPPC and ODA is high in the equations. As evident from specification 1 in the fixed effects, after the threshold level, a 1 per cent increase in GDP per capita would decrease absolute ODA by 0.17 per cent which reflects humanitarian consideration of Japan's ODA allocation.

The population variable also shows a non-linear relation. The sign condition is positive before a threshold level. Population size represents the recipient's need as the larger the population size the larger the need of total aid. Regression results show that at the first stage, as population increases absolute aid increases, but after a threshold level of population the relationship is inverse. Before the threshold level, a 1 per cent increase of population increases absolute ODA by 2.6 per cent but after the threshold level, 1 per cent increases in population decreases aid by 0.27 per cent.

The variable EXP_J and IMP_J explain Japan's commercial and security objectives. The explanation of the export variable should be quite clear as Japan uses ODA to extend the market for her products in the developing world. However, the import variable explains the security motive, as discussed earlier; the oil crisis in the early 1970s stimulated Japan to reshape her foreign policy to secure energy and raw material supplies for the domestic economy. In specification 1 of the fixed effects, both export and import variables have the expected sign and they are significant. The export variable is significant at 1 per cent level and the import variable is at 10 per cent. These empirical results demonstrate Japan's commercial and security motives in allocating aid.

The parameter for freedom variable is negative as expected and is significant. This means that Japan is concerned about the democratic situation of the recipient country when they make aid allocation decisions. The variables infant mortality rate and openness index are not significant in any specification.

6. Conclusions

Japanese aid has declined in the recent past as a reflection of the country's protracted recession for most of the 1990s. The economy is recovering at present, but is facing a large fiscal deficit and growing debt. In this context, it is doubtful that Japan's absolute aid levels will increase significantly in the coming years, despite developed countries' pledges to increase financial assistance to help poor countries meet the MDG targets. But can Japan redirect aid to the benefit of the most aid-needy countries to at least partially compensate for stagnant overall aid levels?

It is clear that Japanese aid policies have changed over time to include humanitarian and developmental objectives. However, it is also obvious from both the qualitative analysis of Japan's aid policies in the past and our econometric results that Japan takes mainly her own national interests in allocating their aid. The econometric results in particular show that Japanese aid exhibits certain bias towards middle-income countries, and that commercial interests reflected in a highly significant export coefficient play a major role in how aid is allocated. At the same time, the infant mortality variable, which is a key one in capturing concerns with social policies in recipient countries, is shown to be non-significant.

The nature of Asian bias also may continue in the years to come given Japan's considerable trade and investment links with other Asian countries. Allocation of aid in this way more or less reflects recycling of the Japanese surplus created from large external trade and investment. Given the historical trends, one can conclude that these determinant factors may continue to play a vital role in future aid allocation decision-making.

In light of the above, the prospects of a significant increase in Japanese aid towards the most aid-needy countries, concentrated mainly in sub-Saharan Africa, look unpromising. There is a need therefore for Japan to truly break with the past to be able to effectively contribute to the MDGs through increased financial assistance, targeted to poor countries outside Asia.

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